AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method comprising:

selecting one of the firewall nodes within the single network for processing a first packet;

receiving, at a first processor associated with the selected firewall node, the first packet;

determining, by the first processor, as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet; and

forwarding the first packet based on the determined first address.

2. (Original) The method of claim 1, further comprising:

using an N-tuple space as the multidimensional space.

3. (Original) The method of claim 2, further comprising:

assigning to the first processor a first region based on the N-tuple space.

4. (Original) The method of claim 3, further comprising:

using the first address, such that the first address represents a point within the first region.

5. (Original) The method of claim 4, further comprising:

using N address values as the N-tuple, such that the N address values represent the point.

6. (Original) The method of claim 2, further comprising:

using the N-tuple space, such that N is equal to a value of at least two.

7. (Original) The method of claim 3, further comprising:

assigning to a second processor a second region based on the N-tuple space, such that the first region is separate from the second region.

8. (Original) The method of claim 7, further comprising:

forwarding, at the second processor, a second packet with a second address determined based on the second region, such that the second packet does not conflict with the first packet.

9. (Original) The method of claim 7, further comprising:

forwarding, at the second processor, a second packet with a second address determined based on the second region, such that the second address does not conflict with the first address.

10. (Currently Amended) A method for addressing packets associated with a plurality of processors, each processor being associated with one of a plurality of firewall nodes in a firewall cluster within a single network, the method comprising:

selecting one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining, by the first processor, whether the N-tuple address is within an N-tuple space assigned to the first processor;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet with the modified N-tuple address.

11. (Original) The method of claim 10, wherein the reading step further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

12. (Original) The method of claim 11, wherein the reading step further comprises:

reading at least a source port.

13. (Original) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based on a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first processor.

14. (Original) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first processor.

15. (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

16. (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function and a modulo division.

17. (Original) The method of claim 10, wherein the step of determining the modified N-tuple further comprises:

adding a value to the N-tuple address, such that the modified N-tuple address is within the N-tuple space assigned to the first processor.

18. (Original) The method of claim 14, wherein the step of determining the modified N-tuple address further comprises:

modifying the N-tuple address based on the quadrant identifier value.

19. (Original) The method of claim 10, wherein the step of sending the packet with the N-tuple address, further comprises:

sending the packet with the N-tuple address, such that the packet does not conflict with another N-tuple address associated with a second one of the processors.

20. (Cancelled).

21. (Original) The method of claim 10, further comprising:

using a computer as the first processor.

22. (Original) The method of claim 10, further comprising:

using a router as the first processor.

23. (Cancelled).

24. (Currently Amended) A method of addressing packets in a firewall cluster within a singe network, wherein the firewall cluster comprises a set of processors, each processor being associated with a firewall node, the method comprising:

selecting one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first processor and sending the packet with the modified N-tuple address.

25. (Original) The method of claim 24, further comprising:

assigning each of the set of processors a firewall node number.

26. (Original) The method of claim 25, further comprising:

determining whether the N-tuple address corresponds to the first processor based on the quadrant identifier and the firewall node number.

27. (Currently Amended) A system for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the ~~method~~ system comprising:

means for selecting one of the firewall nodes in the single network for processing a first packet;

means for receiving, at a first processor associated with the selected firewall node, the first packet;

means for determining as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet; and

means for forwarding the first packet based on the determined first address.

28. (Currently Amended) A system for addressing packets associated with one or more processors, each processor being associated with a firewall node in a firewall cluster within a single network, the system comprising:

means for selecting one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

means for receiving, at the first processor, the packet;

means for reading, at the first processor, an N-tuple address of the received packet;

means for determining whether the N-tuple address is within an N-tuple space assigned to the first processor;

means for sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

means for determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet with the modified N-tuple address.

29. (Currently Amended) A firewall cluster within a single network including one or more firewall nodes associated with one or more processors, comprising:

means for selecting one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

means for receiving, at the first processor, the packet;

means for reading, at the first processor, an N-tuple address of the received packet;

means for determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

means for determining whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

means for sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

means for determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first processor and sending the packet with the modified N-tuple address.

30. (Currently Amended) A system including a firewall cluster within a single network including [[with]] a plurality of firewall nodes, the firewall nodes being associated with one or more processors, said system comprising:

at least one memory comprising:

code that selects one of the firewall nodes within the single network for processing a first packet, the selected firewall node including a first processor;

code that receives, at the first processor, the first packet;

code that determines as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet; and

code that forwards the first packet based on the determined first address; and

at least one processor for executing the code.

31. (Currently Amended) A system including a firewall cluster within a single network including [[with]] a plurality of firewall nodes, the firewall nodes being associated with one or more processors, the system comprising:

at least one memory comprising:

code that selects one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

code that receives, at the first processor, the packet;

code that reads, at the first processor, an N-tuple address of the received packet;

code that determines whether the N-tuple address is within an N-tuple space assigned to the first processor;

code that sends the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

code that determines a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet with the modified N-tuple address; and

at least one processor for executing the code.

32. (Original) The system of claim 31, wherein code that reads further comprises:

code that reads as the N-tuple address, a plurality of values from the received packet.

33. (Original) The system of claim 32, wherein code that reads the plurality of values further comprises:

code that reads at least a source port.

34. (Original) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

code that determines whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first processor.

35. (Original) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

code that determines whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier corresponds to the first processor.

36. (Original) The system of claim 35 wherein code that determines whether the N-tuple address of the packet is within the N-tuple space, further comprises:

code that determines the quadrant identifier value based on a hash function.

37. (Currently Amended) A firewall cluster including a plurality of firewall nodes within a single network, the firewall nodes being associated with one or more processors, the firewall cluster comprising:

at least one memory comprising

code that selects one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

code that receives, at the first processor, the packet;

code that reads, at the first processor, an N-tuple address of the received packet;

code that determines a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

code that determines whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

code that sends the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

code that determines a modified N-tuple address, when the quadrant identifier does not corresponds to the first processor and sends the packet with the modified N-tuple address; and

at least one processor for executing the code.

38. (Currently Amended) A computer-readable medium comprising instructions which, when executed by a processor, perform a method in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting one of the firewall nodes within the single network for processing a packet, the selected firewall node being associated with a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining whether the N-tuple address is within an N-tuple space assigned to the first processor;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet with the modified N-tuple address.

39. (Previously Presented) The computer-readable medium of claim 38, wherein reading further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

40. (Previously Presented) The computer-readable medium of claim 39, wherein reading the plurality of values further comprises:

reading at least a source port.

41. (Previously Presented) The computer-readable medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first processor.

42. (Previously Presented) The computer-readable medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first processor.

43. (Previously Presented) The computer-readable medium of claim 42, wherein determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

44. (Currently Amended) A computer-readable medium comprising instructions which, when executed by a processor, perform a method in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first processor and sending the packet with the modified N-tuple address.

45. (Currently Amended) A computer-readable medium comprising instructions which, when executed by a processor, perform a method in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting one of the firewall nodes within the single network for processing a first packet, the selected firewall node being associated with a first processor;

receiving, at the first processor, the first packet;

determining as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet; and

forwarding the first packet based on the determined first address.